LOUISIANA

Conservationist

September/October 1985

J. Burton Angelle Sr., *Secretary*

comments . . .

When you work in this business, it often seems as if the new year begins in September and ends in late April with the close of turkey season. You begin to associate things not with the year they occurred, but rather with the respective hunting season.

So it is, and so rightly it should be. September in all rights is a new beginning. It marks the beginning of a new school year, a new football season and, of course, a new hunting season. It is a time filled with anticipation and hope that the upcoming year will match or exceed the last.

Maybe this year, little Johnny will finally make the honor roll. This year for sure, the Saints are going to make it all the way to the Super Bowl. This is going to be the year I finally get my sights on that wily old whitetail stag with the huge rack that has been eluding me for so long. These are the types of feelings that make this time of year so exciting.

Bad news now is like a shot of cold water in the face. It wakes you up, brings you back to reality and generally diminishes the fun. This was precisely the effect of the recent disclosure of the record low fall duck flight forecast and the resultant reduction in season length and bag limits.

As expected, the prophets of doom began to come out of the woodwork. Even some influential people who should know better were quick to try to lay much of the blame at the feet of sportsmen. "Overgunning," they yelped.

The situation is similar in many respects to the outcry that existed in my first years as director of this agency in the early 1970s when we attempted to reopen an alligator hunting season at a time when the rest of the world seemed to literally be in a panic over the supposed demise of the creatures.

We maintained then that habitat was the key and that with good habitat alligators would increase, even with properly regulated hunting. For a time, we stood alone in our conviction. Now the world is beating a path to our door.

We hold now that much the same is true for waterfowl. Nesting habitat is the key. It must be maintained and even restored. This takes money.

As was the case with the alligator where we contended that allowing controlled harvesting of alligators would act as an incentive for landowners to protect their marshland, we now contend that waterfowling is essential to the survival of ducks.

It is the sportsman who in the past has indirectly or directly paid the tab. At the national level, the sport of waterfowling is a big business whose total economic impact is undoubtedly in the hundreds of millions of dollars annually. This is a strong incentive to spend the millions of dollars needed to restore nesting habitat. The millions of federal duck stamps sold yearly have already contributed millions of dollars to habitat restoration in the northern states. In addition, efforts of sportsmen's groups like Ducks Unlimited have accomplished much in the Canadian prairie regions known as the "duck factory."

All these efforts depend directly on an interest in the sport of waterfowling. In the November/December 1984 issue of the *Louisiana Conservationist* we had a story on waterfowl that contained a very interesting graph. It showed very vividly that when season lengths and bag limits decline drastically, so does hunter interest. The decline in hunter interest was reflected in the graph by a reduction in duck stamp sales, but could easily be projected throughout the whole economy. Those folks who didn't buy a duck stamp also didn't spend their usual amount on clothes, guns, ammunition, travel and the like.

What was happening was that at the very time when more money was needed to do work like habitat restoration, less money was coming in.

If waterfowl are to be preserved in the numbers we know today, it will undoubtedly be the recreational and economic interests of sportsmen that lead to their preservation.

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Wade Byrd, Associate Editor
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Maurice Cockerham, Staff Writer
Bob Sheldon, Staff Writer
Sara Ann Harris, Staff Writer
Guy LaBranche, Photographer
Bill Ford, Photographer
Priscilla Schatzle, Circulation Manager

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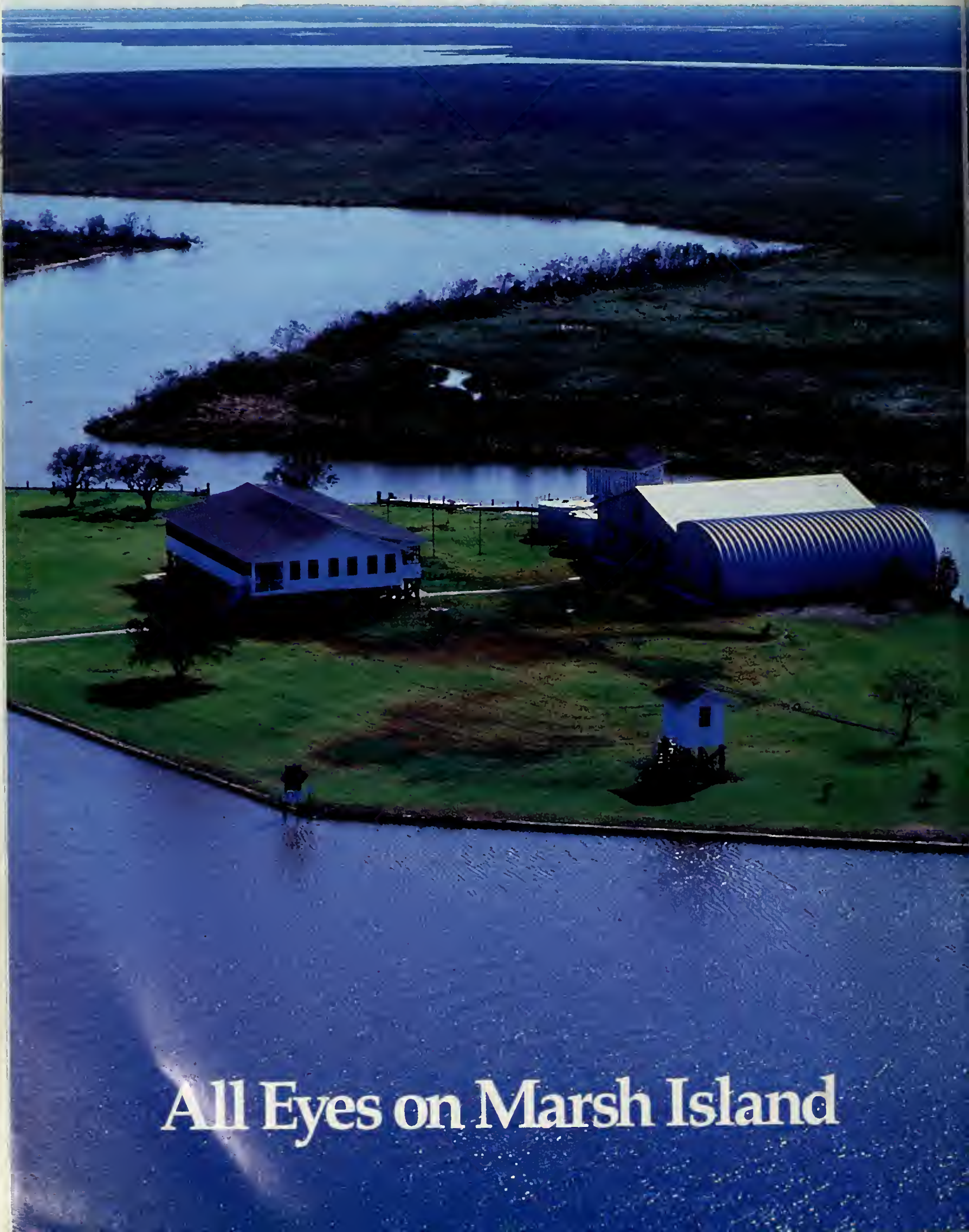


All Eyes on Marsh Island

"In 1972, the world said we were wrong. We stood our ground alone. Today the world is paralleling what we did then."

Ted Joanen

By Bob Sheldon

Photography Guy LaBranche

MARSH ISLAND didn't get off as easily as the rest of Louisiana when Hurricane Danny hit.

As the capricious August storm veered shoreward from the Gulf, it shoved tidewaters to a depth of four feet over the 80,000-acre state wildlife refuge.

Muskrats, rabbits, nutria and whitetail deer perished in great numbers, and the island suffered incursions of saltwater. Of most concern to biologists, the 1985 alligator nesting cycle was virtually wiped out. Countless alligator eggs were destroyed just as the peak hatching season was getting under way.

But for conservation specialists everywhere, there was a silver lining: The precedent-setting Marsh Island alligator study project would proceed unaffected by the devastation.

Alligator research in recent years has drawn world attention to Louisiana. It is conducted by the Fur and Refuge Division of the Department of Wildlife and Fisheries. Funds come from the leasing of oil and gas rights on state lands. No public tax monies are involved.

Louisiana owes its position of leadership to the fact it once stood alone in insisting that proper management, instead of rigid protectionism, is the way to save the alligator population from extinction.

In other words, you can utilize the alligator as a renewable resource and it will still flourish. You can hunt it for sport, hides and meat so long as proper controls are exercised and suitable habitat is maintained.

That contention has long since been proven. But it was a daring approach for Louisiana to take at a time, in the early 1970s, when emotionalism over endangered species had reached hysterical proportions.

The Marsh Island project is the icing on Louisiana's cake. It represents the most intensive hands-on study ever undertaken to devise management practices applicable to any of the 27 crocodilian species worldwide.

Directing the Marsh Island study is Ted Joanen, veteran Fur and Refuge biologist who is recognized as preeminent in the field of crocodilian scholarship. Assisting is a team of Fur and Refuge biologists from New Iberia and Minden.

Joanen is based at Rockefeller Refuge, where much of the analytical work is being conducted. Marsh Island lies to the east, in the very center of Louisiana's Gulf of Mexico coastline.

The island is home to 40,000 alligators. It has been untrodden by hunters for some 25 years, thus relieving the reptiles of one form of stress. But they live with other potential stresses—overcrowding, unfavorable water conditions, even cannibalism.

A stressed alligator runs into trouble reproducing. Its growth and maturation are stunted, and its hormones go haywire. Gathering of stress data is one of the more important aspects of the Marsh Island program.

Since April, Ted Joanen and his crew of helpers have paid frequent visits to the wetland wilderness that is Marsh Island. One of their jobs is the monitoring of alligator nests.

Blood sample is taken from harvested adult female to check hormone levels.

All alligators harvested for scientific purposes are properly tagged.

Rifle is kept at ready, just in case, as dead reptile is hauled aboard.

Because nesting females like solitude, the nests are apt to be widely scattered. Built on marshy terrain, the nests generally consist of mounds three feet high with a base five to 10 feet across. They contain an average of 40 eggs, the condition of which is noted.

At night, the investigators go out in boats to count and size alligators active in the island's waterways. Alligator eyes glow redly in the play of searchlights. The younger, more naive individuals are easily approachable, and their size is estimated by the distance between eyes and nose tip. An inch here is translated into a foot of length from end to end—a six-inch snout, for example, belongs to a six-foot gator.

Some of the bigger, wiser males will submerge instantly when they detect a boat while it still is many yards away. Then it is necessary for the observers to wait, sometimes an uncomfortable hour or two, until they resurface. Thirteen-footers are occasionally seen.

In addition to a scholarly bent of mind, a rugged constitution is needed for these nocturnal excursions, especially when the object is to take specimens for dissection and laboratory analysis.

A hunt of this type is nowise a sport. It is hard work. It begins as darkness falls and may last the entire night. Joanen and an aide man an airboat skimming the shallows while other groups cruise the island's canals in flat bottoms. No amount of repellent can deter the dense swarms of insects that feast on them and find their way into eyes, ears and mouth.

Gators of a mature size, six to nine feet, are shot and dragged aboard. Their jaws are banded shut, just in case, and their sex is determined.

If the alligator is female, a blood sample is taken with a syringe introduced at just the right point in the armor-like hide. Joanen usually has one or more advanced college students under his tutelage, and taken along on a hunt, they speedily learn to perform all those tasks in a way impossible in the classroom.

The blood samples are crucial to the Marsh Island study. They are sent to Dr. Val Lance, animal physiologist at Tulane University.

Dr. Lance analyzes them for hormone content to determine stress levels, for stress diminishes the presence of sex hormones in the alligator's system. He also checks out calcium in the blood; this can tell whether an alligator is ready to produce eggs and start nesting.

At a camp site on Marsh Island, alligators taken in the hunt are dissected. Ovaries are removed and studied, stomach food contents recorded, and femurs or leg bones measured for clues to the animal's age and development.

By November, such intensive examinations will have been carried out on a total of 350 Marsh Island alligators. Inasmuch as only adult animals are required, the destruction of the nesting season by Hurricane Danny has failed to disrupt the project.

The massive accumulation of data will fill many incidental gaps in man's knowledge of crocodilian biology. It is intended primarily, however, for comparison with facts already collected on Louisiana alligators, including some maintained in pens and others subsisting in managed areas where hunting is permitted.

Comparison will disclose the conditions under which alligators fare best, whether in the wilds and entirely on their own or as a renewable resource managed for optimum results.

Biologists, as scientists, are withholding their judgment. But as conservation-minded citizens, many are convinced that in these times, managed herds and habitat will inevitably yield the bigger, stronger, healthier animal.

Past experience backs them up.

Joanen recalls that in the early 1960s Louisiana's alligator population, hunted too freely, had dwindled to an estimated 50,000. Hunting was closed down, and the alligator began its comeback.

Hunting was reopened on a stringently limited basis in 1972, but when the federal government declared the alligator an endangered species, Louisiana dissented. State biologists insisted that the gator simply did not fall under the definition of "endangered"—a label reserved for animals whose mortality exceeds reproduction.

Preservationists set up a clamor. Any resumption of legal hunting, they argued, would lift the lid on wholesale poaching (for reasons never made clear) and would thus hasten doomsday.

Nevertheless, Louisiana eventually managed to gain relief from the Endangered Species Act.

Since 1972, about 130,000 alligators have been legally harvested in this state. The total alligator population now stands at 500,000, about the same as it was in 1900, and continues to expand at an annual rate of 10 percent.

Poaching, says Joanen, has been insignificant. He credits good laws, strict enforcement by wildlife agents, cooperation of the courts and the vigilance of an aroused citizenry.

During last year's alligator season, 1,100 outdoorsmen took pleasure in confronting 16,000 primeval denizens of the state's wetlands. At least 100,000 pounds of protein-rich alligator meat was processed, and skins sold for up to $27 a foot to be fashioned into gleaming handbags and western boots.

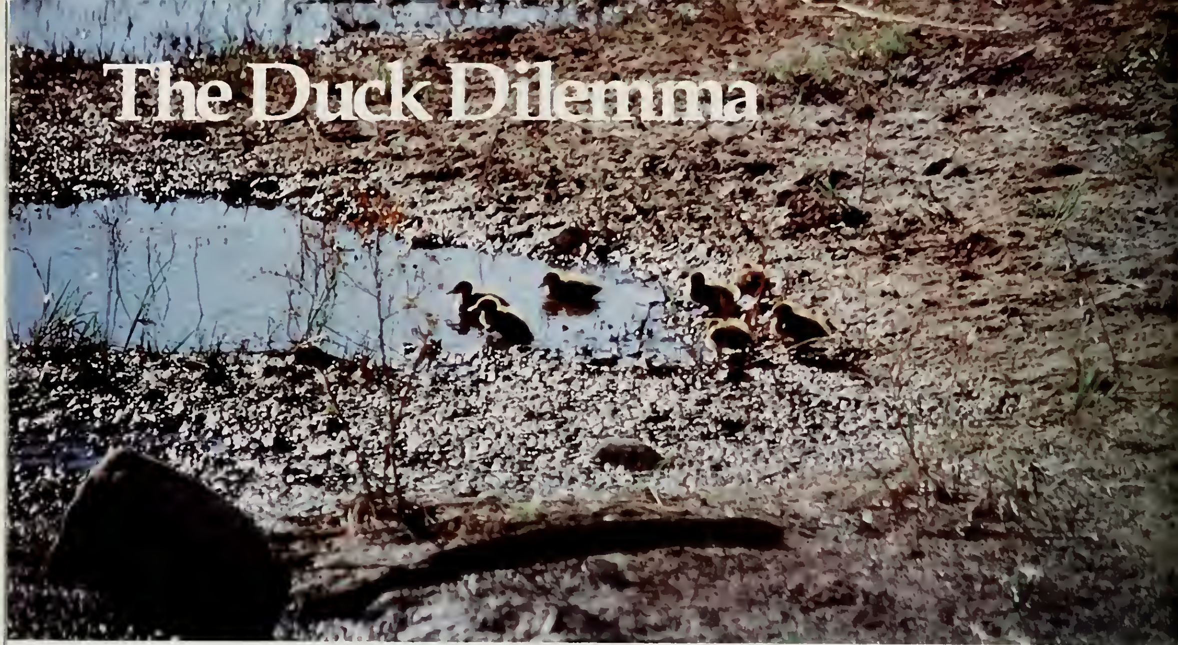
Students and professionals from other lands come to Rockefeller Refuge to learn how it's all done.

"In 1972," Joanen says quietly, "the world said we were wrong. We stood our ground alone. Today the world is paralleling what we did then."

Weight and age data allow biologists to monitor growth rates of Marsh Island alligators.

Only mature alligators, six feet and above, were taken during recent scientific harvest.

The Duck Dilemma



Photograph by Chuck Smith

By Maurice Cockerham and Robert Helm

By mid-summer, the promising outlook of spring had taken on an aura of disaster. Fall flight predictions would later reveal its extent.

EARLY ON it had looked promising. After five years of severe drought in the so-called "Duck Factory," that vast expanse of pothole studded prairie stretching across southern Manitoba, Saskatchewan and Alberta, there had finally been some relief.

It began in the late fall of 1984 with good rains. Heavier than normal rains. The long awaited precipitation continued through the winter and was capped with a spring storm that deposited substantial amounts of snow over a wide area.

It is imperative to realize that the prairie-pothole area of south-central Canada is the key to waterfowl production for the entire North American continent. That does not include geese, of course. Those big birds tend to travel farther northward to take care of their nesting chores, but the ducks unfailingly concentrate in the prairie potholes. If they are to reproduce successfully, two primary requirements must be met: ample water and secure nesting cover.

Most ducks do not nest over the water. A few species will do so, but most move into upland areas to build their nests and hatch their broods. Then the hens lead the ducklings on an overland pilgrimage to the nearest waterhole.

The apparent break in the drought held bright promise. The preceding years had not been good ones for the ducks in the prairies. Reproduction was well below average for almost all species. As the small potholes and marshes dried up, agricultural interests moved in to drain and fill and convert them to permanent cropland. Other normally wet areas simply held no water. In late 1984, however, it looked like things would turn around.

When biologists made the annual pond count in May of this year, they found a whopping 74 percent increase in the number of ponds holding water as compared to 1984 figures. It looked almost too good to be true and it was.

By July, just two months later, more than half of those potholes and marshes were dry. What had looked so promising in May took on an aura of disaster.

Those who looked to the two other major production areas in North America, the rapidly disappearing prairies of Montana, the Dakotas and Minnesota, found no succor there. Even the improved water conditions in the open parklands in the central reaches of Saskatchewan, Alberta and Manitoba could not make up for the deteriorated conditions in the Duck Factory. It was making up to be a bad year for ducks, but just how bad remained to be seen.

"Just how bad" is now common knowledge to waterfowlers from Canada to the Louisiana coast. The predicted Fall Flight Index is now pegged by the Canadian Wildlife Service and the U.S. Fish and Wildlife Service at only 62 million. That figure is the lowest ever projected since the annual surveys were started in the 1950s. It is a stunning 22 percent below the 1984 level.

As a result, duck hunters across the continent will face shorter duck hunting seasons and restricted bag limits. The waterfowl "point system" has been adjusted upward to effect what basically amounts to a fifty percent reduction in daily bag limits, and the point system is now uniform for the Central, Mississippi and Atlantic Flyways. In addition, a 20 percent reduction in the total hunting days available in the 1985–86 season has been implemented, along with an earlier closing date. Similar restrictions have been imposed on waterfowlers in the Canadian Provinces. The overall goal is a 25 percent reduction in the total duck harvest.

The big questions among waterfowlers at this point are: What has happened to the duck populations and what can be done about it?

Unfortunately, the answer to both questions has been available for quite a few years. Organizations such as Ducks Unlimited have been the proverbial voice in the wilderness, but no one was listening.

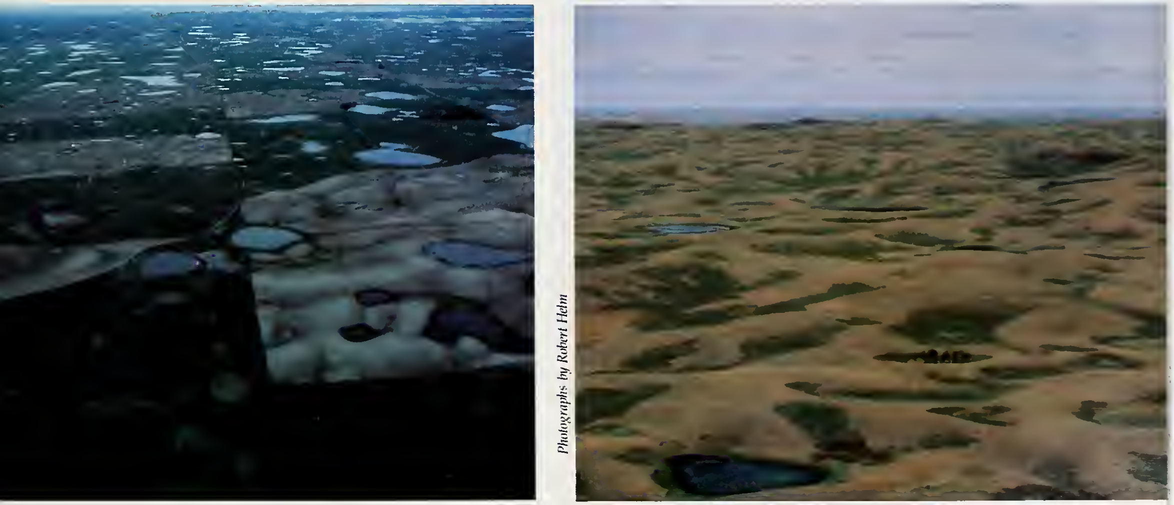
The fact is, duck production in the prairie country is, and always has been, a cyclical affair at best. The area is actually semi-arid, with only about 15 inches of precipitation each year. Droughts such as the current one are not uncommon, although five straight years of persistent drought is a bit much. We can do nothing about the weather except to pray for rain.

The major detriment, from the duck's point of view, has been the constant encroachment of man. (For the benefit of those who may be standing by with rocks in their hands, we have to add that we are not talking about hunters.) The fact is that the modern farm tractor has been the greatest single factor in the decline of duck populations.

It is no secret that habitat is the key to the abundance of any living species. Habitat for ducks spans the entire continent's wetlands. As fall heralds the approach of winter in the northlands, ducks begin their annual migration to the southern latitudes. Some winter over in the southern reaches of the United States, others in Mexico and still others in Central and South America. In early spring, the migratory instinct awakens and the long trip back to the north is inevitable.

Along the migratory routes the birds stop at various locations and for varying periods to eat and to rest. In the southern wintering areas, they must have water, food and cover to protect them from predators, but these requirements pose little problem in the lush, wet temperate and tropical climes. In the north, however, where the vital reproduction takes place, the lack of adequate water and cover create enormous difficulties.

Just why the ducks are drawn to the prairie pothole country is something of a mystery. Geese press on



Photographs by Robert Helm

In "good water" years, almost every depression or pothole in the prairie region contains the precious liquid. (L) Drought years yield dry potholes and, without abundant water, duck reproductive success plummets. (R)

Healthy potholes not only provide vital water, but must have a "buffer" zone of dense vegetation between the water and tilled areas. (T) During droughts, dry potholes are converted to agricultural production. (C) Those still too wet to till often have their critical buffer area stripped for hay production. (B)

to the far north, where the biggest problems are severe winter storms and so-called "subsistence hunters" who kill geese during the breeding and nesting season. The ducks, however, pile into the prairies that begin in Nebraska, Montana, Minnesota and the Dakotas and spread northward across the lower portions of the central Canadian Provinces. Lesser numbers continue northward to the open parklands and still smaller numbers spread into areas from Alaska and the Yukon to Hudson Bay. Biologists agree, however, that the prairie pothole country is the key to the overall reproductive success, or lack of success, for most species of ducks. That is the weak link.

When man first brought the plow to the prairie country it actually boosted duck production. Farmers planted grain and that enhanced the food supply for both the adult birds and their broods. At the same time, those early farmers left the marshes and potholes untouched, with substantial margins of natural vegetation and aquatic plants around the edges. Additionally, they were unable to till all their open land available. Thus, large areas choked with brush, heavy grasses and timber remained undisturbed. The natural vegetation provided ideal nesting areas with good protection from predators—a vital consideration for suitable nesting and brooding habitat.

Human population on this continent expanded rapidly. New and improved farming methods and implements were developed to meet the worldwide demand for more and more food. Farmers soon found that the new equipment enabled them to till all available land and they turned their attention to clearing the thickets and brush piles. The ducks were in trouble.

Slowly at first, but with ever increasing speed, the land was cleared and put to the plow. The ducks were forced to nest in the crop stubble of cultivated fields. That not only increased exposure to natural predators, but introduced a new and equally deadly risk. Waterfowl biologists know that countless nests are destroyed each spring because the prime nesting period coincides with the time of the plow.

Nesting areas are not the only habitat element under constant attack. Along with the ability to till vast expanses of land in a short period of time, farmers are now able to drain and fill the marshes and potholes. An acre or three at a time, the waterholes began to disappear forever into the cultivated fields. Each time drought swept the prairies the improved machinery moved into the dry potholes. Many others were subjected to mowers and hay balers, leaving the precious edge margins naked and stripped of critical cover.

This, more than anything else, is what has happened to the ducks. It is an accepted fact of wildlife management that the total population of any species, including humans, is limited by the amount of suitable habitat available. There must be a certain balance of food, water, cover and space. If any one ingredient is reduced, a decline in the population is inevitable.

The ducks have lost much of their cover and now they are losing their water. So long as that trend continues, duck populations will continue to decline. Oh, there will be ups in wet years and downs in dry years, but the rule is inviolate—fewer potholes and nesting areas will mean fewer ducks.

Ducks Unlimited and other conservation organizations have, for many years now, been battling to preserve and restore vital habitat in the Duck Factory. They have joined forces, whenever possible, with the professional wildlife managers of the Canadian Wildlife Service, the U.S. Fish and Wildlife Service and many state fish and game agencies.

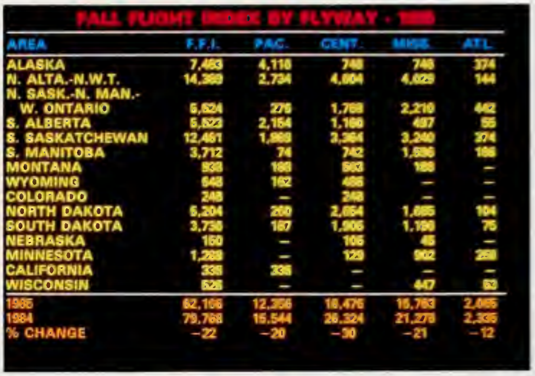
Success in such a necessarily massive undertaking requires equally massive support. Sadly, that support has not been forthcoming, even among the ranks of sportsmen. Now that we have been collectively hit with the proverbial two-by-four to get our attention, that may change.

The U.S. Fish and Wildlife Service, in collaboration with the nation's fish and game agencies, is now working with the Canadian Wildlife Service to formulate what amounts to a "waterfowl treaty" between Canada and the United States. The major themes of that document, still in the planning stages, appear to be threefold:

First, it would promote uniformity and stabilization across the continent in hunting seasons and regulations. Secondly, it would focus massive efforts on the preservation and restoration of both wetlands and nesting areas, particularly in the vital prairie regions on both sides of the border. Finally, and very importantly, the document recognizes that the international nature of the problem demands that those efforts be a joint venture with the full cooperation of both nations.
In addition to the legal and political complexities of internationalism, the necessary financial commitment (an estimated $700 million over the initial 15-year "start up" period) would stagger the economy of either country acting alone.

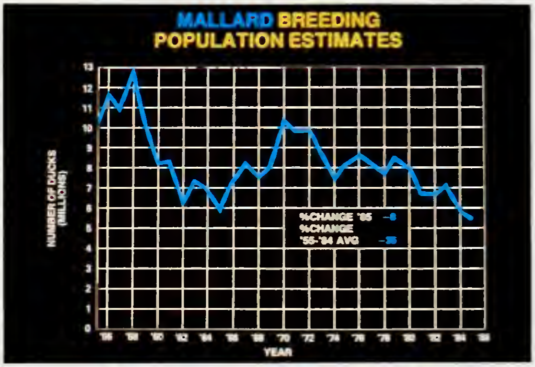
The document, officially known as the North American Waterfowl Management Plan, is expected to be ready for public release and review later this year. It will be based on a 15-year time frame with provisions for complete updating every five years.

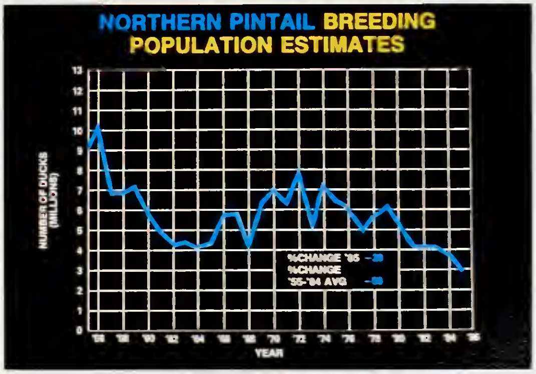
The ultimate fate of the North American Waterfowl Management Plan is far from certain. Its success, if enacted, is even less certain. At this point in time, however, it appears to be taking shape as the "Bible" that will guide major waterfowl management decisions for the future. It just may be the last best hope for waterfowlers...and for waterfowl.



FALL FLIGHT INDEX BY FLYWAY - 1985

AREA	F.F.I.	PAC.	CENT.	MISS.	ATL.
ALASKA	7,463	4,110	748	746	374
N. ALTA.-N.W.T.	14,369	2,734	4,604	4,029	144
N. SASK.-N. MAN.- W. ONTARIO	6,624	276	1,769	2,210	442
S. ALBERTA	5,823	2,164	1,160	497	55
S. SASKATCHEWAN	12,461	1,869	3,364	3,240	274
S. MANITOBA	3,712	74	742	1,586	186
MONTANA	938	186	593	186	—
WYOMING	648	162	486	—	—
COLORADO	248	—	248	—	—
NORTH DAKOTA	5,204	200	2,654	1,665	104
SOUTH DAKOTA	3,756	167	1,906	1,196	75
NEBRASKA	150	—	105	45	—
MINNESOTA	1,289	—	129	902	258
CALIFORNIA	336	336	—	—	—
WISCONSIN	526	—	—	447	63
1985	62,166	12,256	18,476	16,763	2,065
1984	79,768	15,544	26,324	21,278	2,336
% CHANGE	−22	−20	−30	−21	−12



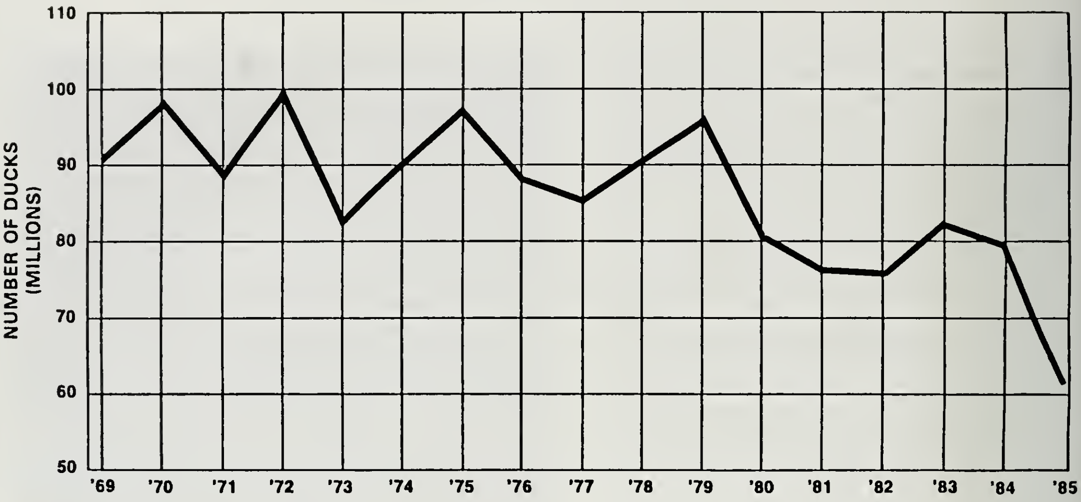


Courtesy U.S. Fish and Wildlife

Official "flight forecast" figures show a marked decline in duck numbers in all flyways for 1985. (T) Populations of Mallards (C) and Pintails (B) are at the lowest levels ever.

1985 FALL FLIGHT FORECAST

UNITED STATES 1969-1985



Waterfowl Seasons— How and Why

By Robert Helm
Waterfowl Study Leader

Waterfowl season dates aren't pulled out of a hat. They represent a lot of work, cooperation and years of research.

"WHEN THAT COLD front moved in two days after the season was over there were more ducks in the marsh than I had seen all year"; "The week before the season opened the teal and pintail were thicker than the mosquitoes in our area." This is just an example of the many comments the Department receives concerning duck season dates each year at our three public hearings. How are waterfowl seasons actually set, what factors are considered when setting these seasons, and how much freedom do we have in establishing bag limits and season lengths? These are some of the questions asked by sportsmen.

All migratory species (ducks, geese, doves, etc.) are governed by federal regulations because they cross state and national boundaries. This is in contrast to resident game (deer, turkey, squirrels, etc.) that are completely regulated by state laws. The United States Fish and Wildlife Service (FWS) dictates a season framework in which states may set their waterfowl season. The framework is simply the extreme dates during which time a state must set its season. For example, in the Mississippi Flyway, of which Louisiana is a member, the duck season framework has been October 1 to January 20 for several years. A 50 day season and the current point system (with minor variation) has been permitted by the FWS for the past 10 years.

The FWS and the Canadian Wildlife Service conduct intensive breeding ground surveys each spring and summer in Canada and the U.S. to develop and evaluate all aspects of duck production. These begin in May when aerial surveys are conducted to determine the number of breeding pairs and the number of ponds available to these birds. In July, the production survey is flown and the number of young ducks produced per adult is calculated. A pond count is also included in this July survey to determine the rate of change in available water areas. All these data are processed to calculate an estimate of the fall flight of ducks which is a primary factor considered when developing annual hunting regulations. This information allows each of the flyway councils to formulate recommendations during late July meetings and forward them to the FWS in Washington. By early August the FWS has made regulations decisions and relayed them to the individual states so season dates can be selected.

Here in Louisiana, early hunting in November allows for the take of lightly harvested species such as teal, wigeon, shoveler, gadwall and pintail. Many of these ducks are considered transient, and stay in Louisiana for varying periods of time prior to continuing their migration to Mexico and Central America. Large concentrations of these early migrant species have arrived in Louisiana by mid-October and their numbers continue to increase through November.

The Department began conducting aerial waterfowl surveys in 1959 to monitor waterfowl migration and populations wintering in Louisiana. The survey has been altered since the '50s but the current procedures have been in place since 1968. The information has aided the Department in keeping track of waterfowl distribution and wetlands important to these popular birds. Aerial counts are conducted 10 times from September to February and include the entire coastal area and also Catahoula Lake. The information provided by 10 years of waterfowl counts reveals that the average gadwall abundance increases from 370,000 in October to over one million by mid-November. During this same time period pintails increase from 200,000 to a peak population of one half million and green wing teal increase from 200,000 to more than 650,000.

Many duck hunting clubs in coastal Louisiana have their highest success rates during the first 2 to 3 weeks in November. This first segment of the season normally extends through the Thanksgiving holidays so youngsters have a chance to be out in the field. For these reasons most of the month of November is utilized for duck hunting in the West Zone. The coastal marshes below New Orleans, especially the Mississippi River Delta, can also benefit from early November hunting because large concentrations of transient ducks and good water conditions occur at this time in the fall. This southeast coastal area, however, is within the East Zone which has consistently had a later opening date for duck hunting than the West Zone.

The later season opening in the East Zone is selected to take advantage of late migrants such as mallards and most diving ducks. Mallard, ring-necked ducks and scaup are present in smaller numbers in October and early November but reach wintering peaks in December and early January. The second portion of the duck season in both zones usually begins on the weekend preceding Christmas to take advantage of this extended holiday period. It extends into January until the remaining days allowed by the FWS are used. Within this second portion of the season water conditions in agricultural fields become most attractive to wintering waterfowl, especially in the central and northeast sections of the state.

While general weather patterns are predictable from year to year in Louisiana, extremes such as unusually heavy rain and extended bitter cold are not. These weather factors influence the numbers and distribution of ducks tremendously and can alter local hunting success dramatically. So, in spite of our efforts to schedule season dates that should provide equitable recreational opportunities for the state's 100,000 plus duck hunters, Mother Nature can and usually does influence local hunting success to a great degree.

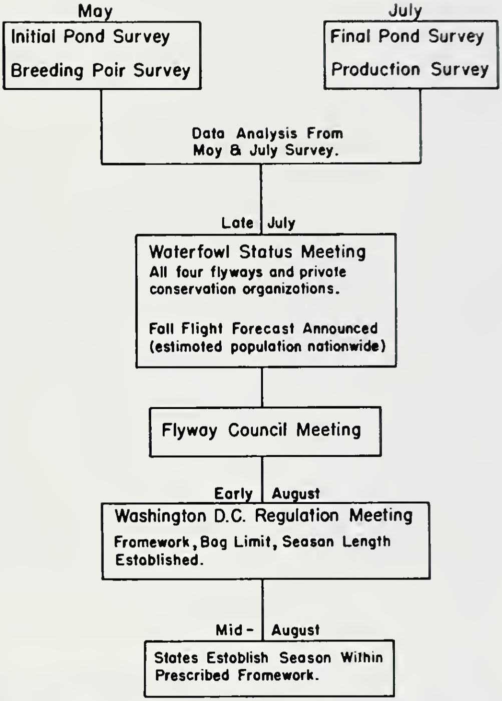

May
Initial Pond Survey
Breeding Pair Survey
July
Final Pond Survey
Production Survey
Data Analysis From
May & July Survey.
Late July
Waterfowl Status Meeting
All four flyways and private conservation organizations.
Fall Flight Forecast Announced (estimated population nationwide)
Flyway Council Meeting
Early August
Washington D.C. Regulation Meeting
Framework, Bag Limit, Season Length Established.
Mid-August
States Establish Season Within Prescribed Framework.

Chart by Jessie Guillot

Angola's Pampered Pelican

By Bob Sheldon

Photography by Bill Ford

Appreciation of the beauty of nature and wildlife transcends all boundaries. If you don't believe it, just ask Pierre.

Across the road from the low-slung building that houses the state's electric chair lie several of the most zealously tended acres in all of Louisiana.

Grass is mown to a suburban precision. Flower beds glow with late-season hues. A placid, meandering pond is kept in pristine condition for its resident population of otters, nutria and mallards.

"It's the most beautiful spot at Angola," whispers a man in the casual garb of a prison trusty.

And lording over it all is a remarkable white pelican named Pierre.

The parklike setting is the province of 96 inmates of Camp F on the outer reaches of Louisiana State Penitentiary. Under the supervision of Capt. John Rabalais, they serve the prison as a grass-cutting crew. Their special attention is reserved for Pierre.

There is even an official Pelican Protector. Ron Wikberg, an inmate for 16 years, received that designation not long ago from a Baton Rouge good-government group that is aware of his work with Pierre.

Wikberg recalls that Pierre arrived at Angola two years ago with a wave of white pelicans migrating from the Pacific Northwest. Somehow the bird became entangled in a trotline and four or five fishhooks were embedded in its wing. The wound festered.

Inmates removed the hooks and treated the infection with peroxide. Finding the wing broken, they splinted it with a 12-inch ruler. At one point the pelican attempted to scamper off, but an inmate known as Tex mounted a horse and lassoed it.

Wikberg says the pelican was dubbed Pierre because it "sounds French," although to this day no one is sure of the bird's actual gender.

Unable to fly, Pierre took well to his home in the Camp F pond. Wikberg did some research and learned that white pelicans fished for food while swimming, unlike Louisiana's native brown variety, which prefers to get airborne and dive.

Wikberg became more and more engrossed in pelican lore and soon was lecturing on the subject to other inmates. A speech he delivered to local Jaycees helped him to qualify for a job counseling other prisoners.

Pierre has established a roost on the far side of the pond from Camp F, but he paddles across whenever the inmates put out some perch or crawfish or corn bread for him.

He'll also approach when Joe Williams calls him. Williams, who has spent 34 years at Angola, is reputed among inmates to have an uncanny rapport with all wild creatures, including the pond's two or three otters, notoriously shy by nature.

The inmates have built a hutch for their mallard ducks and watch protectively over any eggs. They throw watermelon to the nutria and chuckle at their acrobatics as the sleek rodents go after it.

They keep an eye out for predators, too. When a pair of alligators invaded the pond and started eating up the ducks, Cap'n Rab (as the inmates address the camp supervisor) and Warden Frank Blackburn arranged to have the reptiles removed by experts from the Department of Wildlife and Fisheries.

Most pelicans have an ornery disposition, and the ducks generally give Pierre a wide berth lest they incur a wrathful peck. Otherwise, all is tranquility on the pond, and in the tension-laden atmosphere of a prison, that is a benediction.

Recently, when they tired of discussing Time Served and Time Left to Serve, a group of inmates turned their backs on the building containing the executioner's chair and looked out on the water.

To a newcomer, one remarked: "It's peaceful here. Did you ever see a nutria and a duck sleep side by side? Ours do."

But something was troubling Ron Wikberg. "I sure wish we could get a mate for Pierre to keep him company."

Reminded that there was no assurance another pelican would stay put the way Pierre has, and might in fact fly off at will, Wikberg reflected. Finally he added: "That would truly be a tragedy."

Top: Capt. John Rabalais, Camp F supervisor, and two Angola trustees who look after Pierre. Center: Joe Williams has a magic way with animals. Bottom: "Pelican Protector" Ron Wikberg.

LOUISIANA HUNTING SEASONS
1985–1986

RESIDENT GAME BIRDS AND ANIMALS

Shooting Hours

One Half Hour Before Sunrise To One Half Hour After Sunset

QUAIL: November 28-February 28. Daily bag limit 10, possession 20.
SQUIRREL: October 5-January 19. Daily bag limit 8, possession 16.
RABBIT: October 5-February 28. Daily bag limit 8, possession 16.
BEAR: October 19-October 27. One per day, one per season. See schedule for open area.

RACCOON AND OPOSSUM: No closed season. Raccoon and opossum can be taken at night by one or more hunters with one or more dogs and one .22 rimfire rifle. A licensed hunter may take raccoon or opossum with .22 rimfire rifle or shotgun during daylight hours during the open squirrel season. No bag limit during open trapping season. Remainder of year, bag limit is one per person per day or night. No one shall pelt or sell skins or carcasses of raccoons or opossums taken during the trapping season unless he is the holder of a valid trappers license in addition to a basic hunting license.

CROWS, BLACKBIRDS are considered depredators in Louisiana and may be taken year round during legal shooting hours.

COMMERCIAL HUNTING PRESERVES: October 1-April 30; pen reared birds only.

DEER HUNTING SCHEDULE

Bag limit is one legal deer per day, six per season. Hunting is restricted to legal bucks only, except where specifically permitted. A legal buck is a deer with visible antler of hardened bony material, broken naturally through the skin.

Either-sex deer is defined as male or female deer. The taking of spotted fawns is prohibited.

It is illegal to hunt or shoot deer with firearms smaller than .22 caliber centerfire or a shotgun loaded with anything other than buckshot or rifled slug. Handguns and muzzleloaders are permitted.

Pursuing, driving or hunting of deer with dogs during the still hunting season is prohibited.

ARCHERY SEASON: Still hunting only, October 1-January 20 statewide, unless otherwise restricted on WMA's. Either sex deer may be taken in all areas open for deer hunting. Where a buck only season is in progress for gun hunting, however, archers must conform to the bucks only regulations, including WMA's. Bow and arrow regulations: Hunting arrows for deer must have well-sharpened metal broadhead blades not less than $^{7}/_{8}$ in. width. Bow and arrow fishermen must have a sports fishing license and

MIGRATORY GAME BIRDS

DOVES: SHOOTING HOURS - 12 noon to sunset. (The boundary between the North and South Zones is Interstate Highway 10 from the Texas line to Baton Rouge, Interstate Highway 12 from Baton Rouge to Slidell, and Interstate Highway 10 from Slidell to the Mississippi line.) In the North Zone, there is a 70 day, three-part season: Sept. 1-8, Oct. 19-Dec. 1, and Dec. 14-31. In the South Zone, There is a 70 day, two-part season: Oct. 19-Dec. 1 and Dec. 14-Jan. 8. Bag limit is 12 and possession limit is 24 in both zones.

TEAL: Sept. 21-Sept. 29. Bag limit is 4 and possession limit is 8. *Teal only.* **Shooting hours** are sunrise to sunset. Waterfowl stamp is required.

DUCKS: West Zone: Nov. 9-Dec. 1 and Dec. 21-Jan. 11. (45 days) East Zone: Nov. 23-Dec. 1 and Dec. 14-Jan. 13. (40 days) The north-south line separating the east and west zones of the state will run from the Arkansas state line south on La. Hwy 3 to Bossier City, then east on Interstate Hwy. 20 to Minden, south on La. Hwy. 7 to Ringgold, east on La. Hwy. 4 to Jonesboro, then south on U.S. Hwy. 167 to Lafayette, then southeast along U.S. Hwy. 90 to Houma, then south along the Houma Navigational Canal to the Gulf. **POINT SYSTEM:** 20 Point Class: Gadwall, Shoveler, Wigeon, Scaup, Blue Winged-Teal, Green-Winged Teal, Cinnamon Teal, Red-Breasted Merganser, American Merganser. 35 Point Class: Pintail, Mallard Drake, Mottled Duck, Ring Neck Duck, all other ducks not listed. 70 Point Class: Wood Duck, Hooded Merganser, Redhead. 100 Point Class: Canvasback, Black Duck, Mallard Hen. Daily limit is 100 points total.

SCAUP: (SPECIAL SEASON): Open only in designated areas (See 1985-86 Migratory Game Bird Hunting Regulations). Jan. 15-30. Daily bag limit 5. Possession limit 10.

COOTS: Season will run concurrent with the duck seasons in both zones of the state, with a daily bag limit of 15 and a possession limit of 30.

GEESE: West Zone: Nov. 9-Dec. 1 and Dec. 21-Feb. 5. (70 days) East Zone: Nov. 23-Dec. 1 and Dec. 14-Feb. 12. (70 days) Limit for geese is 5 daily, with not more than two White-fronted (Specklebellies) geese in bag. Possession limit is 10, with not more than four White-fronted geese. Shooting of Canada Geese in Louisiana remains closed.

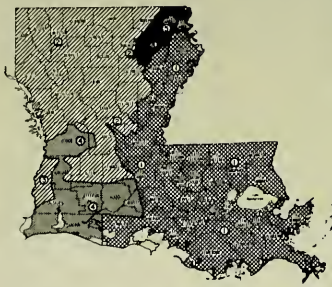
RAILS: Sept. 21-29 and Nov. 9-Jan. 8. Bag limit on King and Clapper Rails is 15. Possession limit is 30. Bag limit on Sora and Virginia Rails is 25 in the aggregate, which is also the possession limit.

GALLINULES: Sept. 21-29 and Nov. 9-Jan. 8. Daily bag limit is 15. Possession Limit is 30.

SNIPE: Nov. 9-Feb. 23. Bag limit is 8. Possession limit is 16.
WOODCOCK: Dec. 7-Feb. 9. Bag limit is 5. Possession limit is 10.
SHOOTING HOURS:
(1) Doves: Shooting Hours: 12:00 noon to sunset.

and legally posted) shall display a total of 400 square inches of "Hunter Orange" material on the head or chest and/or back.

WILDLIFE MANAGEMENT AREAS: Obtain pamphlet for schedule and map.



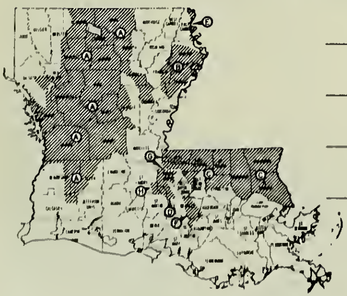
EITHER SEX HUNTING See Louisiana Hunting. Fishing and Motorboat Regulations 1985-86

DEER HUNTING SCHEDULE

Area 1	Still hunting only: Nov 23-28 With or without dogs: Nov. 29-Dec. 15 With or without dogs: Dec. 21-Jan. 19
Area 2	Still hunting only: Nov. 9-28 With or without dogs: Nov.29-Dec. 8 With or without dogs: Dec. 21-Jan. 5
Area 3	Still hunting only: Nov. 9-28 With or without dogs: Nov. 29-Dec. 8 With or without dogs: Dec. 21-Jan. 5
Area 4	Still hunting only: Nov. 9-28 Still hunting only: Nov. 29-Dec. 8 Still hunting only: Dec. 21-Jan. 5
Area 5	Still hunting only: Nov. 9-17 Still hunting only: Nov. 29-Dec. 8 Still hunting only: Dec. 21-Jan. 12

1986 TURKEY SEASON

Daily limit one gobbler; three per season. Still hunting only. Big Game License required in addition to basic Hunting License. Dogs, baiting, live decoys and electronic calling devices are illegal. May be hunted with shotguns using shot not larger than size #2 or with bow and arrow but by no other means. Shooting from vehicles prohibited.



Area	Open Season
A, B G, H	March 22- April 20
C	March 29- April 30
D, F	March 15 April 20
E	March 29- April 27

(3) Teal Season: Sunrise to sunset.

Use of bait and live decoys prohibited. Hunters of ducks and geese who have reached their 16th birthday must have a federal waterfowl stamp and the required state hunting license. A federal waterfowl stamp may be obtained from any U.S. Post Office. Use of rifles, or shotguns larger than 10 gauge or capable of holding more than three shells prohibited. The plug used in guns must be incapable of being removed without disassembling gun.

LICENSES AND PERMITS

HUNTING LICENSES: (All Basic Licenses exclude Big Game - Deer, Bear and Turkey hunting).

(1) **RESIDENT:** (Basic License Required to Obtain Big Game License)	
(a) Basic Season (Excluding Bear, Deer & Turkey)	$ 5.50
(b) Big Game (Required for Bear, Deer and Turkey, in addition to Basic License)	$ 5.50
(c) Archery Hunting License (Needed in addition to Licenses required by law)	$ 5.50
(d) Combination Hunting and Big Game	$11.00
(e) Combination: Basic Fishing, Saltwater Fishing, Basic Hunting and Big Game	$19.00
(2) **NON-RESIDENT:** (Basic License Required to Obtain Big Game License)	
(a) Basic Season (Excluding Bear, Deer & Turkey)	$40.50
(b) Basic 3-Day Trip (Excluding Bear, Deer & Turkey)	$20.50
(c) Big Game (Required for Bear, Deer & Turkey, in addition to Basic License)	$20.50

Residents and non-residents under sixteen years of age and residents sixty years of age and older who have resided within the state for two years prior to application are not required to obtain licenses. Proof of age must be carried. Residents of Texas, Arkansas, Mississippi, Alabama and Florida will pay the same to hunt in Louisiana that Louisiana residents pay to hunt in their state. Military personnel on active duty shall be given resident privilege.

COMMERCIAL HUNTING PRESERVE LICENSE

(Pen Raised Birds)	$200.00

HELP STOP POACHING
1-800-442-2511

Call Operation Game Thief's toll-free hotline any time of day or night. Remember a poacher is stealing from you.

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES
P.O. BOX 15570 · BATON ROUGE, LOUISIANA 70895

HUNTER EDUCATION CERTIFICATION LAW: All applicants for a Louisiana Hunting License born on or after September 1, 1969 are required to satisfactorily complete a Hunter Education Course approved by the Department of Wildlife and Fisheries before purchasing a license. PROOF OF CERTIFICATION must be presented at time of license purchase.

Hunting Seasons Outlook

Painting by Richard Prather

District I

By James H. Taylor

District Supervisor, Game Division

The 1985–86 hunting season outlook is a consensus of the personnel of District I.

DEER Deer populations should remain at near the previous levels in this district. The kill should improve slightly over last year due to increasing the antlerless days from two to four in this area.

SQUIRREL This should be an average year for squirrels. Last year was an outstanding year for squirrel hunting in this area. A short mast crop last year should result in fewer squirrels this year. Most mast species appear to have a good crop this year if dry weather does not prevent them from developing to maturity.

QUAIL This may be a better than average year for quail production. Several broods of young quail have been observed by district personnel.

RABBIT Some improvement in rabbit population should occur this year. Last year appeared to be at the low ebb of the cycle of the population in this area.

DOVES Little change is expected in the dove hunting prospects for this district.

District II

By Clifford Williams

District Supervisor, Game Division

DEER The outlook for deer hunting is good for the upcoming season. Deer herds in many parts of the hill country and some bottomland areas still exceed the carrying capacity of the habitat. Land clearing in bottomland areas has reduced deer habitat in portions of the district. Present land use trends in the hill portions have provided temporary deer habitat improvements.

Wildlife management areas should provide good hunting and the kill should equal or exceed the harvest of 1984–85 depending on hunt participation.

Overall, sportsmen should enjoy a good season in 1985–86.

SQUIRREL Hunting should be better in bottomland areas than last year. Good mast crops occurred in 1984–85. In the hill areas a decrease in hunter success will occur. 1984–85 was an excellent season.

RABBIT Populations are good in both hill and bottomland areas where habitat is suitable. Hunter success should be excellent.

QUAIL Populations continue to be low but much improved over the 1984–85 season. Pairs were observed frequently during early summer.

DOVES High numbers of paired doves have been observed in all areas of the district. The 1985–86 season should be better.

TURKEY The season outlook is about the same as for the 1984–85 season. Part of the hill section and bottomlands areas show some population increases.

District III

By Jerald V. Owens

District Supervisor, Game Division

DEER Range surveys indicate the presence of good populations for the coming season. The number of either-sex hunting days has been expanded throughout the district to allow for legal harvest of more antlerless deer in an effort to reduce the distorted buck/doe ratio which presently exists. This situation arises from a history of lengthy bucks only seasons which have resulted in a disproportionate harvest of the antlered buck segment of the deer population.

Sabine, Fort Polk and Pearson Ridge Wildlife Management Areas should provide productive hunting. The Catahoula and Red Dirt National Wildlife Management Preserves within the Kisatchie National Forest offer excellent hunting opportunities.

DOVE Early season hunting should be good in areas of suitable habitat. Some prepared fields in bottomland areas provide quality shooting during the last two splits of the season, but the best hunting throughout the majority of the district is usually during the first split.

QUAIL Above average numbers of young birds have been observed. Brood survival appears to be high as of mid-summer. Hunting success should be at least comparable to last season.

RABBIT Excellent populations of rabbit can be found in many cut over areas up to approximately three years after logging. Rabbits respond quickly to an increase in available food and cover.

SQUIRREL During the 1984–85 season squirrel hunters experienced excellent hunting over much of the district due in large part to the abundant mast crop of the previous year. However, mast production was generally poor last fall and hunting success is expected to be lower this year. Mast production for this fall appears to be better in some areas for beech and several species of oaks.

TURKEY Observations indicate another successful hatch along with good brood survival in the western portion of the district. Populations on Fort Polk and Pearson Ridge Wildlife Management Areas remain at high levels and offer quality hunting. A huntable population exists on Boise-Vernon Wildlife Management Area.

Two previously closed areas in Natchitoches Parish will be open for turkey hunting as a result of the Department's restocking program. All of the parish will now be open.

District IV

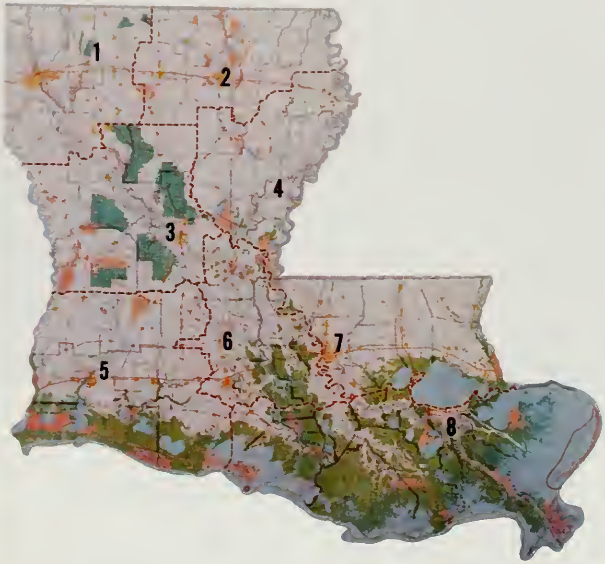
By Reginald G. Wycoff

District Supervisor, Game Division

DEER The overall prospect for deer hunting appears good for the upcoming season. However, isolated instances of lost hunting opportunity will result from land use changes, i.e., conversion of bottomland hardwoods to agriculture and mixed pine hardwood to pure pine stands.

Generally, deer herds remain at high levels and in some areas exceed range carrying capacity. Native browse production has been good due to summer rainfall and should help carry deer herds well into the fall.

District IV wildlife management areas are expected to have good deer harvests where either-sex seasons are scheduled. Hunter turn out will greatly influence success ratios.



SQUIRREL Squirrel populations are expected to be above average, resulting from favorable mast conditions last fall. Generally, mast production in most of the bottomland and upland pine areas was good. On a district basis, squirrel hunters should enjoy increased bags in both timber types during the upcoming season.

RABBIT Weather and habitat conditions have been good for rabbit reproduction and hunter success is expected to be better than last year. Fall rabbit population levels are contingent on existing weather conditions prevailing throughout the remainder of the summer and early fall.

QUAIL Early observations indicate that quail hunting should be better than last year in areas where suitable habitat is provided. Weather conditions have been favorable for good quail reproduction. Quail hunters can anticipate a better than average season if present weather trends continue.

TURKEY Turkey populations are expected to be better than last year, resulting from favorable weather conditions. Spring flooding of batture and low lands was not as severe as in the past several years and reproduction is improved. Hunter success should be better than last year.

DOVE To date, weather conditions have been favorable for good dove production. Presently, doves are scattered throughout the District and pairs and small flocks are being observed; however, no large concentrations have been noted at this time. Dove hunter success during the early season will be largely dependent upon weather conditions prevailing throughout the summer.

District V

By John B. Robinette Jr.

District Supervisor, Game Division

DEER The outlook for deer hunters in the District V area appears to be good for the upcoming season. The quality of the deer harvested will depend on habitat and herd densities. Most of the district's deer herds are at levels exceeding proper carrying capacity to habitat, which causes the quality of deer to be less than their potential. More either-sex hunting was established for the upcoming deer season to reduce herd densities in an attempt to improve quality and reduce buck/doe ratios to proper levels.

SQUIRREL Adequate mast crops were produced in the bottomland hardwood areas of the district which should support good squirrel populations. Squirrel hunters should look forward to a good season of harvesting grey cat squirrels in the bottomland hardwood areas and red fox squirrels in the upland mixed hardwood-pine areas.

RABBIT Populations have remained high across most of the district. Rabbit hunters should enjoy excellent hunting in the agricultural areas, along ridges and spoil banks in the marsh areas, and in recent cleared areas of timberland.

QUAIL Populations have remained high especially in the agricultural areas of the district. Numerous pairs were visible and with this year's dry spring and summer, nesting success should have been good. Quail hunters should have a good season.

DOVES Large numbers of paired dove and small flocks were visible early across most of the district. Agricultural areas, as usual, will hold the larger concentration of doves. This year dove season could be a good one.

TURKEY Turkey flocks are scattered throughout the large tracts of pine plantation and mixed pine-hardwood which compose much of the northwest portion of the district. Populations have increased and expanded their range. Turkey hunters will have low to moderate success but should have a great time trying to outwit a gobbler in the areas open to hunting in this district.

District VI

By Kerney Sonnier

District Supervisor, Game Division

DEER The 1985–86 deer harvest is projected to be good. Last year's records reveal moderate to good harvest. Efforts are still being directed at bringing herd densities within the carrying capacity of the habitat, and improving the buck/doe ratio. Participants in the Intensive Deer Management Program harvested an average of one antlerless deer for every 200 acres. Some progress has been made; however, deer herds in many areas exhibit poor quality.

SQUIRREL The outlook for our squirrel harvest is again good. We experienced a fair mast crop on important tree species in the bottomland hardwood habitats. With sufficient food source, we anticipate double litters large in size and good survival of the young.

RABBIT Populations are high where food supply and cover abound. However, areas which are void of cover experience very low density rabbit populations and subsequent poor harvest success.

QUAIL Populations appear to be static at low to moderate levels. A large percentage of the quail harvested in this District is incidental to woodcock hunting on overgrown fencerows, ditch banks, and small weedy lots.

DOVE Dove call-counts reveal population with a slight decrease index in the breeding birds. However, a three-fold increase in corn production this year should increase food availability and hold doves this year.

TURKEY Populations have continued to increase and expand. Moderate to good harvest success has been reported for last year. Similar results are expected for the upcoming season. Turkey population levels have increased in the Eastern portion of Iberville Parish, which will be open to turkey hunting.

Three Wildlife Management Areas in District VI have been complemented with additional acreage through recent acquisitions. Additional land parcels were 400 acres, 1,372 acres, and 1,547 acres for Spring Bayou, Pomme de Terre, and Sherburne Wildlife Management Areas respectively.

District VII

By David Moreland

District Supervisor, Game Division

DEER Deer hunting should be very good in this district this season. Last season's third split was hampered by the unusual warm December temperatures which affected deer movement. One problem we have observed is that many clubs are overharvesting yearling ($1^1/_2$ year old) bucks. Because of this, few bucks live to reach an age where they could become a trophy animal. When this occurs, we recommend reducing the yearling buck kill and supplementing this with some antlerless deer harvest.

SQUIRREL Last year's anticipated good mast crop turned out to be a bust in this district. As a result, squirrel populations may be down in some areas. This year's oak, hickory, and beech mast crops appear good and hopefully will be when October 5th arrives.

RABBIT Rabbit population continues to be good and hunting should be as good as last year.

TURKEY Turkey populations are doing well in the Florida Parishes. The '85 season was somewhat strange with little gobbling activity occurring in the first part of the season. This year the season will run through April 30 and provide hunters with ample time to bag their bird.

QUAIL Quail hunting should be good for 1985–86.

District VIII

By Robert A. Beter

District Supervisor, Game Division

DEER Prognosis for the deer season at present appears to be good. Deer populations in some areas exceed carrying capacity and in other areas are below capacity. Improvements in various habitats have been accomplished by many clubs through vegetative manipulations, e.g., providing openings in dense overstories and vegetative plantings. Much needs to be done to convince more hunters of the necessity for harvesting antlerless deer.

SQUIRREL Mast crops, live oaks and water oaks, should be good this year. Squirrel populations in the district appear to be good.

RABBIT Hunting should be good to excellent in the marshes, ridges, and cultivated sections of the district. The early drought conditions allowed rabbits to move out through the local marshes. The recent rains have enhanced the vegetation in these same areas and have provided excellent cover and food conditions.

DOVE The local dove populations appear extremely good. Migrant and local dove populations should provide some very good hunting for local avids.

Other migrant birds should find good to excellent conditions in the local marshes.

The Clean Team

By Sara Ann Harris

Photography by C.C. Lockwood

Five concerned Louisiana personalities and outdoorsmen take aim at litterbugs.

"IT'S JUST AS EASY to toss it in the bag," says the Clean Team.

Spearheading a statewide anti-litter campaign, "team" members Hokie Gajan, New Orleans Saints' MVP, Grits Gresham, outdoor writer and TV personality, Tommy Casanova, LSU and NFL football great, C.C. Lockwood, wildlife photographer, and Bert Jones, LSU and NFL record setting quarterback, spark Louisianans to show our pride in the resources and beauty of our wonderful outdoors by simply toting out whatever we bring in.

In a series of public service announcements sent to all Louisiana TV stations, the Clean Team uses light humor to prompt us to rid our lovely bayous, marshes and piney woods of such unwanted species as the "yellow-bellied beer bottles," the "dreaded snapping coolers," and the "majestic duck billed wading boots."

In answering the question how the campaign got started, Casanova tells of a recent fishing trip in Montana with some cowboys he met in training camp. He was impressed by their attitude toward litter: "Those guys were outdone. They really cared."

He took their example to heart and decided there was no reason Louisianans, who thrive on sports in the wild and depend on the environment for their livelihood, couldn't show the same pride in their state.

After the PSA began airing in July, Casanova got word from three fishing groups who had chartered boats along the coast. They reported it *was* "just as easy to toss it in the bag" but, unfortunately, as they approached the marina the crew dumped the collected trash overboard.

Change in public opinion is still needed. And the Clean Team feels such a simple solution that can benefit so many is sure to be a take. Without spending one tax dollar or expending any extra time or energy, Louisianans can knock out the litter problem by simply taking aim before they toss.

After all, "It's just as easy to toss it in the bag."

Clean Team members Tommy Casanova, LSU football great, C.C. Lockwood, wildlife photographer, Hokie Gajan, New Orleans Saints MVP, and Grits Gresham, outdoor writer, rally around keeping Louisiana litter free.

Bert Jones, LSU and NFL record setting quarterback, recruits his family onto the Clean Team.

Sportsmen's Paradise Regained

By Sara Ann Harris,
Hugh Bateman and Larry Savage
Photography by Bill Ford

Habitat restoration is a long-term but desperately needed commitment. Future generations will remember our efforts.

THE LARGEST bottomland hardwood reforestation project ever is underway in the Mississippi River Delta of northeast Louisiana. Prime hardwoods dominated by oak and pecan which historically occurred in dense stands across the Lower Mississippi Valley are being brought home again. Nuttall oak, willow oak, overcup oak, bald cypress and native sweet pecan will be planted on approximately 80% of 5,621 acres of recently purchased agricultural land that joins the Russell Sage and Ouachita Wildlife Management Areas near Monroe.

Naturally regenerating species such as bitter pecan, persimmon, elm, willow, hackberry and native understory plants will provide welcomed diversity to recreate a highly varied forest environment, ideal for supporting a wide range of wildlife communities. Eventually, all of the old timers—deer, rabbit, raccoon, mink, squirrel, bobcat, fox and opossum populations are expected to reappear. The completed project will result in a sportsmen's paradise regained.

Land clearing enterprises stimulated by agro-economics beginning in the 1950's and the associated channelization of waterways in northeast Louisiana resulted in dramatic losses of hardwood forests and the dependent wildlife resources. Watchdogs for Louisiana's wildlife resources perked their ears. Department of Wildlife and Fisheries biologists and foresters reported during the 1960's that Louisiana's delta woodlands, considered one of the most productive game and fish habitats on the continent, were being whittled away at over 100,000 acres/year. They also warned of a virtual "end of our hardwoods and forest wildlife" by 1991. Former department employees such as Richard Yancey, Dewey Wills and Allen Ensminger initiated an aggressive land acquisition program that focused on preserving much of Louisiana's remaining bottomland hardwood forests. Taking on the full burden to mitigate the loss and preserve this vanishing but critical habitat, the department has acquired 11 separate tracts since 1960 totalling 220,229 acres in Louisiana's delta hardwood region.

The oak varieties to be planted on the Ouachita tract were selected for their adaptability to the soil and water conditions there. A carefully planned planting scheme will leave an open forest canopy where sunlight can penetrate, encouraging the growth of valuable deer browse, including rattan, greenbriar, dewberry, swamp dogwood, trumpet creeper, poison ivy and climbing dogbane. Deer, squirrel, raccoon, ducks and turkey will eventually benefit from the high quality mast crops that these young oaks will one day produce. The entire project was outlined and then carefully coordinated with experts from the U.S. Forest Service, Hardwood Forest Experiment Station at Stoneville, Mississippi.

The primary objective of this acquisition was to connect the two management areas, Ouachita and Russell Sage, with a wooded corridor running from north to south. A five to ten year checkerboard planting schedule of approximately 900 acres/year will build a multi-layered hardwood forest where different aged tree stands will create prime conditions for a variety of wildlife.

Waterfowl will also reap specific benefits from development of the area. Via the existing water control units and the impoundment, 200-300 acres along Bayou Lafourche will be flooded each year for wintering waterfowl. Several greentree reservoirs are possible in the long range management plans and will further enhance the quality of existing waterfowl habitat. A complete range of waterfowl projects including a refuge, public hunting, woodduck boxes and resident Canada geese are being considered for this new area.

Eagle Scout Robert Cloud of Monroe, Louisiana, opened the planting season last fall by rounding up ten troop members to assist him in completing a public service project. The boys pitched in by hand-placing oak seedlings on one of the first ten acre plots. By season's end in June, 1985, department staff had bedded some 114,000 seedlings and 6,000 pounds of acorns on 870 acres of disked, fertile ground.

Collecting the number of acorns needed was a considerable challenge and department personnel from Enforcement, Fish, Game and Information and Education Divisions combined efforts to get the job done. It was truly a cooperative effort by the department employees who hand-picked over one million acorns this past year.

Under the direction of District II Wildlife Biologist Larry Savage, the technical staff performed quality control checks to eliminate acorns infected by disease or marked by insect damage. They then went about the important task of placing the seeds in cold storage or underground to keep them viable but dormant prior to planting. As planting progressed over the 870 acres, numerous study plots were marked to measure seedling and acorn survival. The techniques developed and the information gathered will guide and improve future efforts by the department and others in the reclamation of additional areas cleared of hardwood forests.

There is a high degree of outdoor activity on wildlife management areas near Monroe each year and this addition to Ouachita will provide a needed increase in recreation potential. Sports enthusiasts will have a full range of choices including hunting, trapping, fishing, crawfishing and frogging. General outdoor lovers can visit Ouachita for camping, bird watching, or educational outings, perhaps to catch a glimpse of one of the alligators recently stocked on the area.

The length of time required to complete the reforestation project at Ouachita will depend primarily on weather conditions and the availability of acorns for planting, explains Savage. His best estimate is that some mast will be produced within 15 years and that a mature hardwood forest will become a reality in some sixty years.

Restoring this vanishing habitat and the wildlife resources indigenous to Louisiana is a long-term but desperately needed commitment by the department. Although significant recreational opportrunities are immediately available for Louisiana sportsmen on this new addition to Ouachita, the real benefactors will be youngsters like Scout Robert Cloud who will one day see the full results of this effort restore part of our state's natural heritage.

Direct seeding was accomplished on 401 acres of the Ouachita tract this first planting season. (L) Technical staff weighed in a total of 9,000 pounds of acorns, which they hand-picked at Russel Sage WMA. (C) Using a mechanical planter acorns were dropped to allow 12-foot square plots/tree. (R) Following the planter, Biologist Harry Cook spot checked for proper depth.

Spiders, Spiders

By Wade Byrd

Photograph by K.C. Hanson

Arachniphobia—a deadly and unnatural fear of spiders.

A DISTANT FLURRY of leaves and a fleeting glimpse of a bushy tail caught his attention. With all the skill of the consummate woodsman, he moved silently through the woods for a better look, his eyes riveted to the spot.

Suddenly, all hell broke loose. Tree limbs exploded in a hussle of activity as he began to dance about, arms flailing wildly in the air. The squirrel, alert for such things, took this as its cue to head for parts unknown and the only thing left after calm again returned to the woods was one very mad and frustrated hunter.

What brought on this turn of events was an oft-repeated, yet nonetheless startling, confrontation with one rather large spider web. There is nothing that strikes terror deep into the heart of the average outdoorsman as the thought of a big hairy spider crawling down the back of his neck.

Psychologists call this arachniphobia. Arachniphobia seems to be an almost universal phenomenon. It strikes men and women, old and young alike. It transcends race, religion or national origin. It has been known to reduce full-grown he-men into quivering lumps of jelly.

Outdoorsmen are particularly susceptible to arachniphobia simply because they and spiders are often in the same place at the same time. In fact, in this part of the country, it is hard to go into the woods without running into spider webs—large ones with big bright spiders right smack in the middle.

Spiders belong to the phylum Arthropodia which includes spiders, mites, ticks and scorpions. The distinguishing factor that ties them all together is four pairs of legs. By and large, spiders are harmless, with only three, the brown recluse, black widow and tarantula posing any real danger to man. Even these three generally go out of their way to avoid direct contact with man and their danger, while real, is often overstated.

In a recent report by the Louisiana Department of Health and Human Resources on animal-related deaths and injuries for the years 1975–84, not one single fatal spider bite was recorded. In comparison, three persons died due to wasp stings. In fact, the last reported death in Louisiana due to a spider bite was way back in 1969.

The large black and gold spiders that are the nemesis of outdoorsmen are commonly called garden spiders and are members of two genera of spiders belonging to the family Araneidae or typical orb weavers.

They are generally harmless, but, if handled roughly, can inflict a bite somewhat akin to the sting of a large ant. There is a lesson to be learned here. If, horror of all horrors, you do happen to feel one crawling down your neck, remove it gently. People who handle them regularly report they seldom bite unless genuinely threatened.

The most often encountered of the garden spiders are two members of the genus Argiope. Characteristic of this genus of orb weavers is a thickened band of silk below and/or above the center of the web called a stabilimentum. Its exact function is uncertain, but it is thought to play a role in defense, acting as camouflage against aerial attack.

These two spiders are the black and yellow garden spider, *Argiope aurantia* and the banded garden spider, *Argiope trifasciata*. The stabilimentum of the banded garden spider is a little less prominent and its egg sacs are shaped like little kettle drums compared to the spheroid egg sacs of the black and yellow garden spider. They build their large webs in tall grass, trees or around houses.

Females of both species grow to a little over an inch, (excluding legs), while adult males are less than one-quarter inch. Since females distinguish potential lovers from potential meals by vibrations of the web, suitors must really be on their toes.

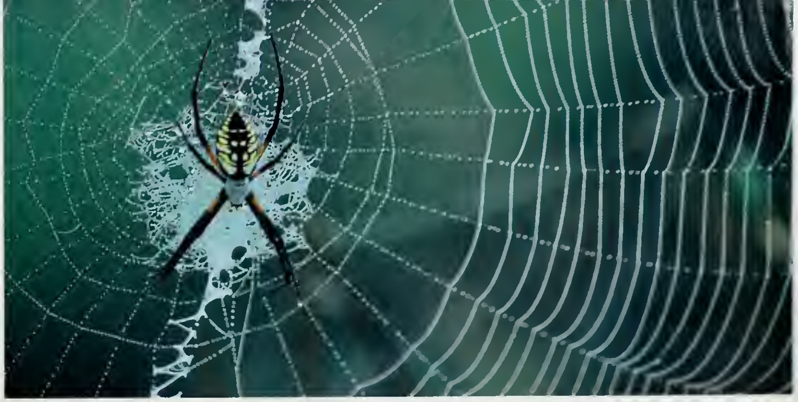
A less frequently encountered spider of the genus Nephila is the golden-silk spider, *Nephila clavipes*. It is readily recognized by the conspicuous tufts of hair on six of its eight legs. A little smaller than the garden spiders, females grow to a little less than one inch (excluding legs), and males get as large as three-eighths of an inch.

They are encountered less often because webs are usually built higher up in trees, often in groups.

Garden spiders hatch in spring and in a practice known as ballooning spin silk threads that catch the wind currents and allow them to literally fly. They generally molt four to five times before reaching adulthood in four to six weeks.

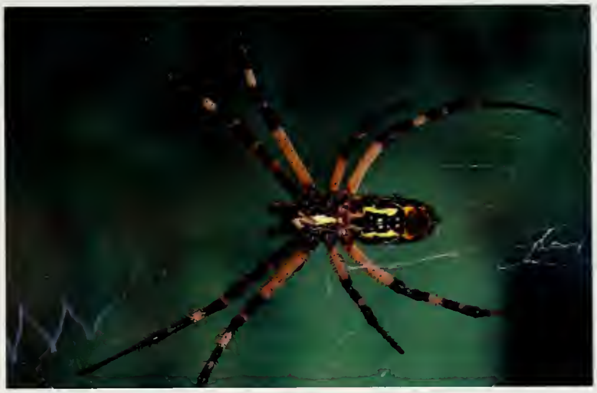
Webs are constructed by again utilizing the air currents to carry a bridgeline. Once stuck, the bridgeline is pulled taut and fastened. Threads radiating outward from the center serve as the foundation of the web, while the viscid spiral threads contain minute sticky globules which act to snare prey.

A spider can complete a web in from one-half hour to two hours and must consume and recycle its web every three to four days to replace the sticky droplets. Some spiders can recycle over 90 percent of the protein contained in the silk web. They are truly amazing creatures. Besides, they eat mosquitoes.

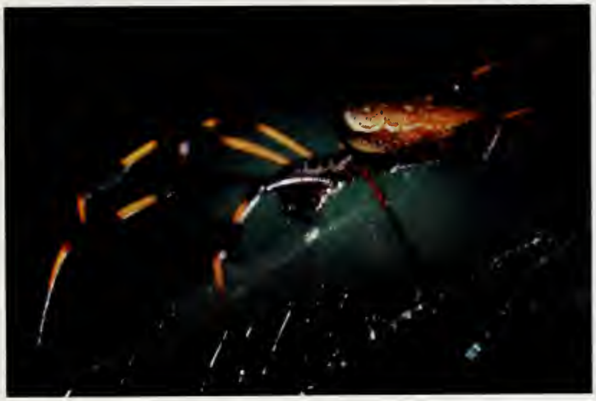


Photographs by Nancy Webb

Black and yellow garden spider with typical prominent stabilimentum. Usually spiders will hide when webs are laden with dew like this one since it interferes with their ability to distinguish prey from predator.



Banded garden spider with less prominent stabilimentum.



Guy LaBranche

Conspicuous tufts of hair on legs identify this as golden-silk spider

Beetles Blanket Woodlands

Photo courtesy of U.S. Dept. of Agricult

By Sara Ann Harris
Photography by Bill Ford

Foresters say they can actually hear the swift-moving southern pine beetle as it chews away our piney woods.

LOUISIANA HAS been struck by the most severe southern pine beetle epidemic ever. The "bark beetle" killed over 34,000 acres of Louisiana timberland, as of August 1, valued at $23 million.

Damage to this second largest industry in the state has impacted industrial, corporate, state and national woodlands. But the hardest hit is the private landowner who represents 50% of the business and has the slimmest resources to call upon to combat the swift-moving bug that foresters say they can actually hear as it chews away our piney woods.

For the private landowner the timber business is a high risk venture where success is a one shot deal. A number of Louisianans planted with retirement security in mind. Now, forty years later when their pine is ready for market, they are at a terrific loss. "You don't have a second chance," one Lake Charles timberman explained. An Alexandria resident added, "I've lost $15,000 so far. It's not a big amount, but to *me* it's a big amount."

Showing no signs of slacking up, by August, infestation was at epidemic proportions in 11 parishes. Hardest hit were Natchitoches and parishes forming a line across north-central Louisiana. The beetle consistently strikes in high density, over-mature stands, then spreads to vigorous and finally young trees. Crowded or stressed mature pines are unable to repel the attacker and their proximity to one another allows the beetle to disperse easily.

By sheer numbers the miniscule black beetles overcome a tree's natural defenses. At an initial attack the pine tree exudes a glossy resin that smothers its predators. But the stressed tree emits an odor that draws female beetles, which in turn expel an attractant that alerts thousands of others.

The southern pine beetles inhabit only the bark where they tunnel S-shaped galleries and lay eggs. When the adults fly off to the next closest pine, secondary insects, such as the ambrosia beetle and the sawyer beetle which are attuned to signals from the weakened tree, then actually penetrate and kill it.

The Office of Forestry's consulting entomologist Richard Goyer of Louisiana State University summarized the four control methods: 1) cut 2) cut 3) cut and 4) cut—immediately. The beetle is swift and thorough, moving at 70-130 feet per day and colonizing at up to 120,000 bugs per tree. Hesitation only means greater losses.Identifying the SPB is the first step in any control method. Professional help is recommended to avoid confusing the SPB with other bark beetles and to assist in marking the beetle's full range of infestation.

At a fresh attack landowners find pitch tubes or globules of resin—soft, pink and sticky, some ten to 20 feet above the ground. Foliage is still normal and bark tight. But peeled bark reveals some browning where adults have begun tunneling.

As the beetle infestation progresses the pitch tubes become hard and white, called popcorn, the bark loosens, and the S-shaped tunneling becomes more obvious. Also saw-

Beetles are smaller than grain of rice.

Photo courtesy of U.S. Dept. of Agriculture

dust like spills are noticeable at the bottom of the tree—a sign of the ambrosia beetle.

Red and brown foliage, falling needles, very loose bark, darkened wood and heavy "sawdust" all indicate that the tree is dead and the southern pine beetle has vacated it. There is no danger of spread from such trees.

State Forester Mike Mety explained that cutting enough trees is the only way to fight the bug: "They are worse than wildfire because they kill every tree they infest. The only practical treatment is to cut infested trees and a buffer of uninfested trees at the active head of the beetle spot. We recommend that the trees be salvaged and utilized so the landowner can obtain some compensation for the trees. However if the market situation in the area does not permit sale of the trees, the landowner still needs to cut the infested trees and the buffer because that is the only way to stop the beetles."

Landowners have turned to several sources for assistance. The Office of Forestry conducts aerial surveillance flights regularly throughout the state and has mapped out 3,715 infested spots. Landowners, notified of flight dates via the media, then consult the maps as a guide to groundchecks on their property. Foresters continue to work at generating legislation and federal monies applicable to solving the crises.

Agriculture Commissioner Bob Odom has extended to the Department of Natural Resources his office's right of entry onto any Louisiana land in times of crises. This frees up Natural Resources personnel to avail themselves to assist with control methods.

Governor Edwards has activated the National Guard to assist in cutting operations on non-industrial lands other than the national forest. Well aware that the market is depressed, the governor has written to the executive officers of industry throughout the state requesting their help in seeking out new markets, nationally and internationally.

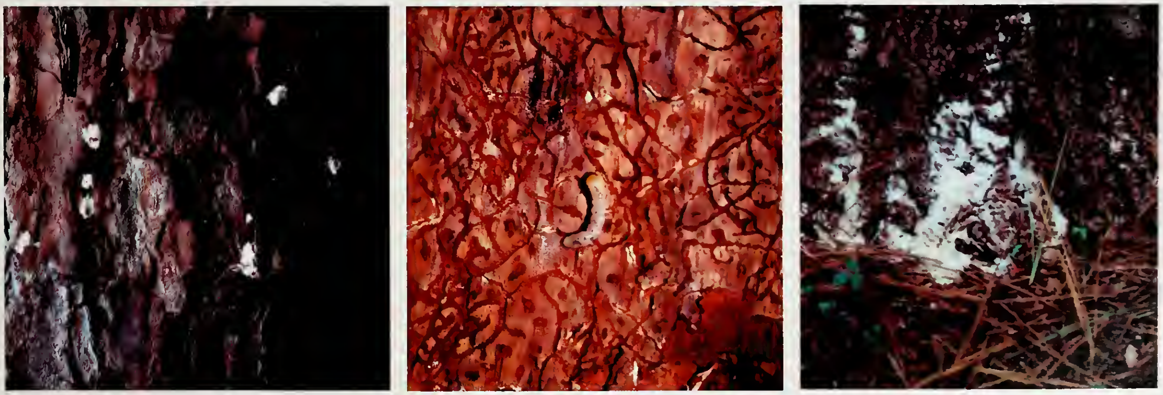
National foresters are using their own resources to outwit the bug. The U.S. Forest Service has detailed employees from around the southern region to come to Louisiana's aid. Kisatchie National Forest Supervisor Bob Joslin feels optimistic about the cut controls used on the 12,500 acres of infested trees to date. But in managing a 598,000 acre forest, he cannot realistically conclude that there are not yet undiscovered outbreaks.

Most worrisome to all concerned is the unpredictability of the epidemic. Though foresters cite earlier, milder epidemics in central and southeast Louisiana, no pattern of outbreaks can actually be established. Most often experts explain the cause of the epidemic as the southern pine beetle overpowering, outnumbering or outdistancing its predators.

In this fact lies a clue to the expected duration of the siege. Once this "lag period," or period of lapsed predator strength, ends so will the pine beetle's superiority. Office of Forestry's Chief of Forest Management Gus Nachod summed it up saying, "The epidemic will run its course irrespective of what we do. What we *are* doing is minimizing our losses."

Detailed information on the identification of the SPB and the control methods is available from the U.S. Forest Service, Integrated Pest Management Program, 2500 Shreveport Highway, Pineville, LA 71360. Phone 318/437-7250.

Or for assistance contact any local Forestry office: Hammond, Oberlin, Olla, Minden, Monroe, Natchitoches, DeRidder, Woodworth, Jonesboro, Clinton, Lafayette and Baton Rouge.



Resin globules or "popcorn" are early sign of beetles (L). Fatal damage to tree is done by secondary insects like sawyer beetle (C) whose larvae can be seen in crusty tunnel and ambrosia beetle (R) that leaves telltale "sawdust" at base of tree.

Conservationotes

Agent Ronald Hill

Hill Named Agent of Year

Ronald D. Hill, serving with the Enforcement Division in Rapides Parish, has been selected by the Louisiana Department of Wildlife and Fisheries as its Agent of the Year.

Agent Hill will represent the department at the annual convention of the Southeastern Association of Fish and Wildlife Agencies in October in Lexington, Ky., said J. Burton Angelle Sr., department secretary.

A U.S. Army veteran, Hill, 40, joined the department 10 years ago as a Wildlife Management Area warden and served with the Game Division until 1982 before transferring to Enforcement.

He has a reputation as a tireless campaigner against outlaw hunters who operate at night, and was nominated for the Agent of the Year title by his supervisor in Region III, Maj. Tracy R. Lucky.

"Agent Hill is always ready to handle any assignments," Lucky said, "and has the initiative to make many good cases without assignment."

A resident of Pineville, Hill is married and has two daughters.

Guarding Oyster Purity

Two divisions of the Louisiana Department of Wildlife and Fisheries were honored recently for their contribution to the federal government's campaign against violators of oyster harvesting restrictions.

Virginia Van Sickle, LDWF deputy secretary, accepted special citations awarded to the Seafood Division and the Enforcement Division by Commissioner Frank Young of the U.S. Food and Drug Administration.

The presentation was made in New Orleans by Robert Bartz, FDA district director.

Each of the two divisions received a plaque commending it for "exceptional cooperative efforts to protect the health of consumers by applying the collective weight of federal and state laws to halt illegal oyster harvesting."

Mrs. Van Sickle noted that state personnel were especially active last April during an FDA crackdown on truckers hauling illegally taken oysters across the Louisiana-Mississippi border. In one night, more than 1,600 sacks of untagged oysters were seized and five truck drivers arrested.

LDWF officials on hand for the award ceremony included Corky Perret, assistant secretary for Coastal and Marine resources; Ray Montet, chief of Enforcement; and Ron Dugas, oyster research leader.

Help for Our Marshes

Landowners can get help in reducing or even reversing the loss of Louisiana's coastal marshlands to erosion and saltwater intrusion.

Comprehensive technical services are available for the asking from the Soil Conservation Service of the U.S. Department of Agriculture, according to Lee Davis, soil conservationist with SCS's New Orleans Field Office.

Davis said that SCS biologists and engineers would assist the landowner in drawing up a marsh management plan acceptable to the state Department of Natural Resources.

He said that current mitigation laws allowed marshland owners to qualify for money used for water-control structures such as weirs, plugs and flapgates as well as vegetative and dirt work required to reduce wetland degradation and improve wildlife habitat.

Noting that wildlife management practices were dependent on proper water control, Davis stressed that hunting clubs active in marsh areas were eligible for SCS technical assistance as well as landowners.

Further information is available from the Soil Conservation Service, New Orleans Field Office, 555 Goodhope St., Norco, La. 70079. The telephone is 504/831-3211.

COMMISSIONER'S SPECIAL CITATION
COMMISSIONER'S SPECIAL CITATION

Pictured at citation awards ceremony are, from left, Col. Ray Montet, Ron Dugas, Virginia Van Sickle, Robert Bartz and Corky Perret.

Bayou Kitchen

This issue's **Bayou Kitchen** *features a few favorite recipes of Commissioner of Insurance Sherman Bernard and his wife Julie.*

Oyster Dressing

2 cups long grain rice
2 tsp. salt
1 lb. ground meat
2 or 3 doz. oysters–oyster juice
2 cups sliced yellow onions
1 cup green onions
5 pieces garlic (chopped)
1 8 oz. can mushrooms
2 cups chopped celery
2 cups turkey gravy
½ cup cooking oil
Salt & pepper to taste

1. Brown ground meat in skillet, mashing it down to release most fat; also making sure it is not in large chunks. Drain, removing fat and put aside.

2. Cook rice in boiling salted water (or steam if preferred).

3. In a large deep pot, sauté onions, celery and garlic in oil until tender. Add ground meat, cooked rice, mushrooms and oysters. Salt and pepper to taste. Mix together well while on low heat, gradually adding oyster juice and turkey gravy

Shrimp and Linguine

3 lbs. peeled shrimp
1 lb. linguine
White sauce (recipe below)
4 tbsp. Parmesan cheese
4 tbsp. butter
½ cup white wine
1 can (6 or 8 oz.) sliced mushrooms
Prepare white sauce and keep warm.
4 tbsp. butter
4 tbsp. flour (instant preferred)
2 cups milk
½ tsp. salt
⅛ tsp. red pepper

Melt butter or margarine in 2-quart pot over low heat; stir flour to form paste, add milk, salt and pepper. Continuing on low heat, beat with a wire whisk until smooth and a desired consistency.

Using large skillet or deep pan, melt butter on low heat, add shrimp and chopped garlic. Cook till shrimp turn red (approximately 5 minutes or less); add wine and place pan aside. Cook linguine in boiling water al dente. Drain and place in large platter, mix in buttered shrimp and mushrooms and cover with white sauce. Sprinkle with cheese.

Sweet Peppers a la Nicola

3 tsp. finely chopped garlic
½ cup cooking oil
4 or 5 lbs. red peppers (sliced lenghtwise (1" wide)
½ cup capers rinsed in cold water (optional)
3 or 4 anchovies mashed with fork
1 cup black olives sliced
1 cup green salad olives sliced
Tony Chachere's Creole Seasoning or salt and pepper to taste
½ to ¾ cup Italian style bread crumbs
Pine Nuts or almonds (Optional)

Place oil and garlic in large skillet and heat till garlic turns light brown. Add peppers and cook till almost tender (approx. 5 min.). Add olives, capers, anchovies and nuts until tender (approx. 3 min.) Add seasoning, stir and turn fire off. While still on hot stove add enough bread crumbs to absorb liquid. Serve hot or cold.

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